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SAN-HO-CHA, THE BIGGEST SLUICELAKE ON THE HUAI RIVER

Work has already begun on the HUAI Control engineering programme for 1953, and a million civilian labourers from Honan, Anhwei and Kiangsu have reached the scene of action. One of the important pieces of work is the SAN-HO-CHA which must be finished by the end of June this year, before the summer flood.

One of the main river systems in China, the HUAI River rises in the TUNG-PE- Mts. of Honan and flows into the Yangtze and the Eastern Sea after traversing eastern Honan and the northern parts of Anhwei and Kiangsu. The full length of the main stream is 1087 Km. and the approximate area of the drainage basin is 220,000 sq. Km.

Up to 700 years ago this was a very fertile area; then towards the close of the 12th century (in 1194 A.D.) the Emperor KUAN-CHUNG of the Northern Sung Dynasty breached the Yellow River banks in an effort to hinder the Tartar soldiers, and the HUAI River channel was stolen by the Yellow River. It is since this time that disasters have come to the Huai drainage area. When the Japanese made their attack on Honan in 1938, Chiang's bandits in their efforts to escape again breached the dikes at HUA-YUAN-K'OU on the south of the river, and the waters entered the HUAI River system, but created at the same time an artificially flooded area that brought about the death by drowning of more than half a million people and the submergence of 14 million mu of good paddy fields, making 12 million people homeless. This is the cause of the present serious conditions that are found through the Huai R. basin (wide floods after heavy rains, smaller floods after light rains, and drought if there is no rain).

For the basic control of the Huai R. and its utilization for the welfare of the people, our great leader Chairman Mao issued the call in 1950 to make as a fixed objective the thorough repair of the Huai, and on Oct. 6th of that year the Huai Control Commission was set up to go on with the work under the direction of the Ministry of Water Conservancy according to the decisions promulgated by the Government Administrative Council.

It was estimated that five years would be needed to finish this great piece of constructive conservancy engineering but that after it was completed the increase in annual production of grain alone could exceed 2600 million CHIN, apart from the advantages to be gained by water transport and hydro-electric schemes.

SAN-HO-CHA is situated in the S.W. corner of HUAI-YIN county in northern Kiangsu at the junction of SAN-HO and the HUNG-TSE Lake. This lake's history dates from the time in 1194 when the Yellow R. waters were diverted into the Huai, bringing about the silting up of the outlet channel of the latter to the sea in N. Kiangsu; this caused an accumulation of flood waters (from hundreds of small streams along the upper and central reaches of the Huai) along the Kiangsu - Anhwei border, where a few small lakes and marshes already existing gradually extended in area, forming the present lake. There is much shallow water in it, and every time the flood waters from the Huai R. exceed its capacity to hold them, the dikes are over-topped or burst and the N. Kiangsu plain is submerged. The reactionary feudal Emperors of the MING and CH'ING dynasties found no method of controlling these flood disasters except the negative one of building a dike all round the lake and making the flood waters flow south through SAN-HO and after passing successively through

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the PAO-YING, KAO-YU and SHAO-PE Lakes and the Grand Canal, ultimately to enter the Yangtze River. From hydrographic records that have been kept over a series of years, the maximum flow into the HUNG-TSE Lake from the Huai R. is 14,600 cubic metres per second, while the water channel into the Yangtze will take only 8,000 cub. metres/sec. Consequently the farmlands of more than ten counties in the lower river district of N. Kiangsu have been inundated every time there have been flood waters in relatively large quantity. Yet in dry years, when the upper reaches of the HUAI River lacked water, the waters of the HUNG-TSE Lake still flowed away through SAN-HO and the lake emptied itself and nothing was left for irrigating the fields of the N. Kiangsu district, the low water also stopping the traffic along the Grand Canal.

SAN-HO-CHA is a regulating weir by which the water level of HUNG-TSE Lake and the flow of water through SAN-HO will be controlled. The engineering for its construction was begun in Oct. 1952, and the scale of work exceeds that of the JUN-HO-CHI diversionary weir in the Middle Huai region. The weir is based on the east bank of SAN-HO; its length is only to that of the flood intake weir connected with the CHANG flood diversion project. There are four parts making up the whole work: first the body of the weir, 697.75 metres long, 132 metres broad, 9.5 metres high. The whole of the base of this is of poured reinforced concrete. There are 63 sections with a sluice gate in each operated by electric motors, and one man at the switchboard can open or close them all. Across the top of the weir there will be a highway bridge (and an operational bridge for manipulating the sluice gates) to facilitate the transport (of the area). Besides this, the mouth of the SAN-HO is to be closed by building a straw dam (T.N. using bundles of reeds, perhaps) seven Chinese li long across it; a river-blocking dam over 300 metres long is to be built; and a water channel excavated for which more than four million cubic metres of earth will have to be moved.

As early as August, 1952, the Huai Control Commission went all out to get all preparations made for the building of SAN-HO-CHA, to ensure its completion within the time set. There were fully 300,000 tons of the needed materials (cement, yellow sand, stones and machinery), enough to load 10,000 wagons had they to be transported by train.

Regarding those engaged in the building, some have had experience in the CHING-CHIANG and the JUN-HO-CHI projects, and over 50,000 civilian labourers come from KAO-YU, HUAI-YIN, CHIANG-TU and SZU-YANG; in addition there are U.S.S.R water conservancy experts and many soldiers of the PLA - these once liberated the people of this region, and are now building up prosperity and happiness for them. When these soldiers reached the site they all felt strange; many of the articles they had never seen before nor even heard of, but after three months of studious effort most of them had a grasp of the technique, and some forged ahead of the general run of skilled workmen. Everywhere can be heard the remark: "When the SAN-HO-CHA is finished we are going to build a reservoir; when the Huai R. is controlled we shall control the Yellow River."

When the work at SAN-HO-CHA is completed the safety of the N. Kiangsu lower river district will be guaranteed even at times of unusual floods by the drawing off of the flood waters: at other times the volume of water in HUNG-TSE Lake will be maintained so that there will be a large amount flowing into the N. Kiangsu main irrigation channel through the KAO-LIANG-JUN inlet gate for the watering of 25,800,000 MOU of N. Kiangsu farmlands. The water level along the middle and lower Huai R. and in the N. Kiangsu irrigation channel will be kept constant, making these waterways permanently suitable for

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use by shipping which can come in from the Eastern and Yellow Seas and proceed directly to the TA-PIEH-SHAN district on the middle Hwai R., and to WU-LUNG-CHI which lies within Honan province. In this way an uninterrupted interchange will be possible between the cotton of the reclaimed areas of N. Kiangsu the rice and wheat of the lower river district, the table salt from salt-yards of the northern HUAI, the coal, bean, sorghum of N. Anhwei, and the tea, bamboos and drugs of the TA-PIEH-SHAN district, on the one hand, and the industrial products such as yarn and cloth of Shanghai, Wusih and other large cities on the other. The goods produced by the people of Kiangsu, Honan and Anhwei will be guaranteed resulting in improvement in their material livelihood, while industrial and farming production will show rapid development. With the HUNG-TSE Lake under control, hydro-electricity will be available by utilizing the water flowing through the SAN-HO-CHA. After the completion of the whole work the 70-year old PAO-YING and KAO-YU Lakes can be gradually dried out, making a further 1.5 million MU of fertile land available for the production of grain.
